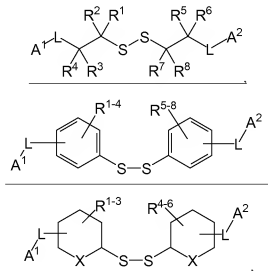


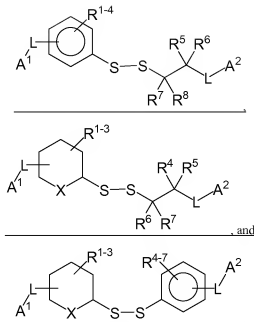
AMENDMENTS TO THE CLAIMS

In the claims, please cancel claims 9-11 and 21-23 and amend claims 7, 8, 19 and 20 as follows:

1-6. (canceled)

7. (currently amended) A ~~composition containing a labile~~ disulfide bond-containing crosslinking agent for inserting into an organism formed by the process comprising:
- ~~forming a compound comprising a~~ disulfide bond; and
  - at least one electron withdrawing group wherein ~~the disulfide bond is located between at least two reactive groups and wherein the at least one~~ proximity of said electron withdrawing group is different from the at least two reactive groups to said disulfide bond results in said disulfide bond being cleaved more rapidly than oxidized glutathione; and,
- [[b]] c) two reactive groups wherein:
- one reactive group is located on each side of said disulfide bond, but not between said electron withdrawing group and said disulfide bond;
  - said reactive groups are capable of forming covalent bonds with separate molecules compounds on each side of [[the]] said disulfide bond ~~via the reactive groups, wherein;~~
  - formation of said covalent bonds does not result in loss of said [[the]] electron withdrawing group, facilitates cleavage of [[the]] said disulfide bond, ~~or such that the said~~ disulfide bond [[is]] not being cleaved more rapidly than oxidized glutathione; and, wherein
  - subsequent cleavage of [[the]] said disulfide bond results in the formation of two molecules.
8. (currently amended) The ~~composition~~ disulfide bond-containing crosslinking agent of claim 7 wherein the ~~composition is amphipathic~~ disulfide bond-containing crosslinking agent consists of the structure selected from the group consisting of:





wherein at least one of  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ , or  $R^8$  consists of an electron withdrawing group, X consists of a heteroatom selected from the group including sulfur, oxygen, nitrogen, and phosphorus, L consists of a linker group that provides a connection between the disulfide bond and the reactive groups, and  $A^1$  and  $A^2$  are reactive groups.

9-11. (canceled)

12-18. (canceled)

19. (currently amended) A ~~composition containing a labile~~ disulfide bond-containing crosslinking agent ~~for inserting into an organism formed by the process~~ comprising:

a) ~~forming a compound containing a~~ disulfide bond; and

b) ~~at least one electron withdrawing group wherein the disulfide bond is located between at least two reactive groups and wherein the at least one proximity of said electron withdrawing group is different from the at least two reactive groups to said disulfide bond reduces the pKa of at least one of the constituent thiols of said disulfide bond to less than glutathione thiol pKa; and,~~

~~[[b]] c) two reactive groups wherein:~~

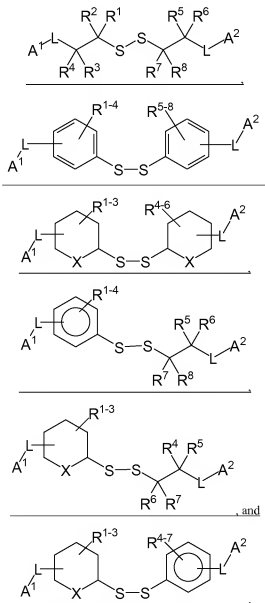
i) ~~one reactive group is located on each side of said disulfide bond, but not between said electron withdrawing group and said disulfide bond;~~

ii) ~~said reactive groups are capable of forming covalent bonds with separate molecules compounds on each side of [[the]] said disulfide bond via the reactive groups, wherein;~~

iii) ~~formation of said covalent bonds does not result in loss of said [[the]] electron withdrawing group, cleavage of said disulfide bond, or reduces an increase in the pKa of at least one of the constituent thiols of the disulfide bond such that said pKa is not [[to]] less than glutathione thiol pKa; and, wherein~~

iv) ~~subsequent cleavage of [[the]] said disulfide bond results in the formation of two molecules.~~

20. (currently amended) The ~~composition~~ disulfide bond-containing crosslinking agent of claim 19 wherein the ~~composition is amphipathic~~ disulfide bond-containing crosslinking agent consists of the structure selected from the group consisting of:



wherein at least one of R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, or R<sup>8</sup> consists of an electron withdrawing group, X consists of a heteroatom selected from the group including sulfur, oxygen, nitrogen, and phosphorus, L consists of a linker group that provides a connection between the disulfide bond and the reactive groups, and A<sup>1</sup> and A<sup>2</sup> are reactive groups.

21-23. (canceled)

24-28. (canceled)

CLEAN VERSION OF THE CLAIMS

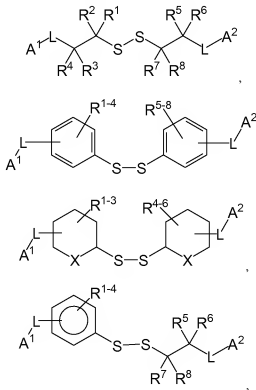
For clarity, a clean , unmarked version of the claims is provided:

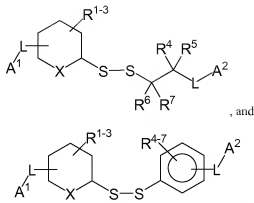
1-6. (canceled)

7. (currently amended) A disulfide bond-containing crosslinking agent comprising:

- a) a disulfide bond;
- b) at least one electron withdrawing group wherein proximity of said electron withdrawing group to said disulfide bond results in said disulfide bond being cleaved more rapidly than oxidized glutathione; and,
- c) two reactive groups wherein:
  - i) one reactive group is located on each side of said disulfide bond, but not between said electron withdrawing group and said disulfide bond;
  - ii) said reactive groups are capable of forming covalent bonds with separate compounds on each side of said disulfide bond;
  - iii) formation of said covalent bonds does not result in loss of said electron withdrawing group, cleavage of said disulfide bond, or said disulfide bond not being cleaved more rapidly than oxidized glutathione; and,
  - iv) subsequent cleavage of said disulfide bond results in the formation of two molecules.

8. (currently amended) The disulfide bond-containing crosslinking agent of claim 7 wherein disulfide bond-containing crosslinking agent consists of the structure selected from the group consisting of:





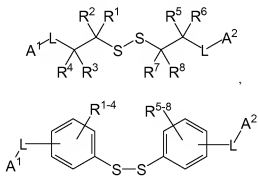
wherein at least one of  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ , or  $R^8$  consists of an electron withdrawing group, X consists of a heteroatom selected from the group including sulfur, oxygen, nitrogen, and phosphorus, L consists of a linker group that provides a connection between the disulfide bond and the reactive groups, and  $A^1$  and  $A^2$  are reactive groups.

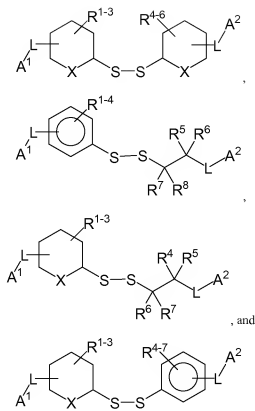
9-18. (canceled)

19. (currently amended) A disulfide bond-containing crosslinking agent comprising:

- a) a disulfide bond;
- b) at least one electron withdrawing group wherein proximity of said electron withdrawing group to said disulfide bond reduces the pKa of at least one of the constituent thiols of said disulfide bond to less than glutathione thiol pKa; and,
- c) two reactive groups wherein:
  - i) one reactive group is located on each side of said disulfide bond, but not between said electron withdrawing group and said disulfide bond;
  - ii) said reactive groups are capable of forming covalent bonds with separate compounds on each side of said disulfide bond;
  - iii) formation of said covalent bonds does not result in loss of said electron withdrawing group, cleavage of said disulfide bond, or an increase in the pKa of at least one of the constituent thiols of the disulfide bond such that said pKa is not less than glutathione thiol pKa; and,
  - iv) subsequent cleavage of said disulfide bond results in the formation of two molecules.

20. (currently amended) The disulfide bond-containing crosslinking agent of claim 19 wherein disulfide bond-containing crosslinking agent consists of the structure selected from the group consisting of:





wherein at least one of  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ , or  $R^8$  consists of an electron withdrawing group, X consists of a heteroatom selected from the group including sulfur, oxygen, nitrogen, and phosphorus, L consists of a linker group that provides a connection between the disulfide bond and the reactive groups, and  $A^1$  and  $A^2$  are reactive groups.

21-28. (canceled)